
7D

Action

Professional Services Committee of the Whole

Adoption of Passing Score Standard for the Teaching Foundations Examination in Science

AGENDA INSERT

Executive Summary: This report describes the standard-setting study process for the Teaching Foundations Examination (TFE) in Science, the results of the studies, and the recommended passing score standard.

Recommended Action: That the Commission adopts the staff recommended passing score standard for the TFE: Science.

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Strategic Plan Goal: 1

Promote educational excellence through the preparation and certification of professional educators

- ◆ Sustain high quality standards for the performance of credential candidates.

Adoption of Passing Score Standard for the Teaching Foundations Examination in Science

Introduction

The Teaching Foundations Examination (TFE) in Science is used in lieu of the teaching foundations and methodology coursework to satisfy one of the thirteen requirements for the Early Completion Internship Option. The passing score standard represents the level of knowledge and skill believed to be just sufficient for an entry-level teacher.

Background

A preliminary study has been performed by the TFE: Science Standard Setting Panel to determine a recommended passing score standard. This study was facilitated by Educational Testing Service (ETS).

Results of the Standard Setting Study

Following the standard-setting studies, ETS calculated the median score from each of the panel members' recommendations for the test form used on August 5, 2006. The chart below indicates the number of scorable items for each examination by item type, the panel's weighted raw score, and the recommended scaled score, with a reporting scale-range from 100 to 200.

Panel-Recommended Passing Standards for the TFE: Science

Teaching Foundations Examination	Item Type	Scorable Items	Maximum Possible Weighted Raw Score Points	Median Panel Recommended Weighted Raw Score	Total Recommended Weighted Raw Score	Panel Recommended Scaled Score
TFE: Science	Multiple-Choice	50	50	34.72	110.80	177
	Constructed-Response	2	96	76.08		

As indicated in the agenda item, the standard error of measurement on a test is a measure of the "spread" of scores that a student would receive if tested repeatedly without studying or contemplating the answers between tests. The following chart gives the range of scores with various estimated standard errors of measurements (eSEM) based on the TFE: Science panel's recommended score. It also indicates the percentage of the 90 examinees who will pass the August 5, 2006 administration using those scores as the minimums for passing. When determining the prior Teaching Foundations Examinations passing score for Multiple Subjects, English, and Mathematics, the Commission determined that the minus one eSEM score range was appropriate.

**Panel Recommended Scaled Score and the Resulting Passing Rates
for the August 5, 2006 TFE: Science Test Form
Using a Variety of Estimated Standard Errors of Measurement**

Results with a Variety of Estimated Standard Errors of Measurement (eSEM)	TFE: Multiple Subjects
Panel recommended scaled score with a +2 eSEM	190
Passing rate for the August 5, 2006 test form with a +2 eSEM	20%
Panel recommended scaled score with a +1 eSEM	184
Passing rate for the August 5, 2006 test form with a +1 eSEM	39%
Panel recommended scaled score	177
Passing rate for the August 5, 2006 test form with the panel-recommended scaled score	59%
Panel recommended scaled score with a -1 eSEM	171
Passing rate for the August 5, 2006 test form with a -1 eSEM	67%
Panel recommended scaled score with a -2 eSEM	165
Passing rate for the August 5, 2006 test form with a -2 eSEM	77%

Please note that due to the low number of examinees, the passing rates may not accurately reflect the results of future examination administrations. The demographics of the August 5, 2006 examinees are provided in Appendix A.

Job Relevance of the TFE: Science

As part of the standard setting study, ETS asked the panel members to review the test specifications and the topics of the multiple-choice test items for job relevance. ETS asked the panel to perform this validity activity to confirm that the TFE: Science content was appropriate and meaningful for an entry-level California science teacher, therefore meeting the purpose of the test.

For both the test specifications and the multiple-choice topics, the panel members independently determined the degree of importance of the knowledge and skills measured. The members used a 4-point scale: (1) Very Important, (2) Important, (3) Slightly Important, and (4) Not Important, with ratings of Very Important and Important considered to support job relevance. The panel unanimously determined that each of the test specification areas were relevant. In reviewing the topics of each of the 50 multiple-choice items, the panel felt that 92% were relevant. These more than exceeded the minimum TFE level found acceptable by the Commission: 80% for the test specifications and 60% for the multiple-choice topics.

Recommended Passing Score Standard

Staff recommends both of the following:

1. That the Commission accept the TFE: Science passing scaled score standard of 171 for the August 5, 2006 test form. This score reflects the Standard Setting Panel's recommended passing scaled score standard with a standard error of measurement of minus one, which would be consistent with the other Teaching Foundations Examinations.
2. That the Commission allow ETS to use the passing score standard adopted by the Commission to equate to all future TFE: Science test forms.

Appendix A

Demographics of the August 5, 2006 TFE: Science Examinees

TFE: Science Examinees	Composition
Total Number of Participants	90
Gender	
Female	55
Male	34
Education	
Bachelor's Degree	22
Bachelor's Degree plus Additional Credits	27
Master's Degree	8
Master's Degree plus Additional Credits	18
Doctoral Degree	8
Undergraduate Major	
Humanities	5
Mathematics and Natural Sciences	57
Social Sciences	10
Graduate Major	
Education	6
Mathematics and Natural Sciences	26
Social Sciences	7
Race and Ethnicity	
African American or Black	13
Asian, Asian American, or Pacific Islander	5
White	56

The specific demographic areas do not total to 90 because examinees are not required to provide this information. The demographic information will vary in future examination administrations to reflect each group of candidates who take this examination.